FACTOR Xa INHIBITORS

ABSTRACT OF THE DISCLOSURE

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The invention provides compounds specifically inhibit factor Xa activity. The compounds 5 consist of the structure K-YIR-X, wherein X_{\uparrow} is H, acyl, alkyl, acylalkyl, arylalkyl or one or more amino acids, and X is a modified C-terminal group, one or more parboxyprotecting groups or one or more amino acids or other substituent, and Y, I and R are tyrosine, isoleucine and 10 arginine, respectively, or peptidomimetic or organic structures that possess the same functional activity as Y, I and R, respectively. In addition, the present invention provides a compound having the structure $A_1-A_2-(A_3)$ -B, where m is 0 or 1. A compound of the invention can be linear or cyclic and can be about 2 and 43 residues in length. A 15 compound of the invention is characterized, in part, in that it exhibits a specific inhibition of factor Xa activity with a K of \leq 100 μ M, preferably \leq 2 nM, and does not substantially inhibit the activity of other proteases 20 involved in the coagulation cascade. The invention further provides methods of specifically inhibiting the activity of factor Xa and of inhibiting blood clotting in vitro and in an individual and methods of detecting factor Xa levels or activity.